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Kentucky trash-to-gas facility moves forward

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Converting trash to gas could become one of the key methods of cellulosic ethanol production for 2009. Several companies are beginning to ramp up their efforts to produce ethanol from municipal solid waste (MSW) on a commercial scale.

Indianapolis-based Agresti Biofuels, formerly called Indiana Ethanol Power LLC, announced Aug. 20 the company will begin contract negotiations with Pike County, Ky., officials who have agreed to participate in a commercial-scale MSW-to-ethanol facility. Construction of the 20 MMgy Central Appalachian Ethanol plant, which will be located on 40 acres of property near the Pike County landfill, could begin as early as late December.

County residents generate approximately 400 tons of MSW per day. Once fully operational, the Central Appalachian facility will be able to take in 1,500 tons of MSW daily, which will open the door for neighboring counties that currently pay tipping fees to the Pike County landfill to utilize the facility for their waste disposal.

Pike County officials approved the project for several reason – the first of which was that it will provide an efficient method of disposal for the county's trash. Officials said the county's current landfill is nearing capacity and the government will not approve additional hollow landfills. A new landfill would cost the county millions of dollars. The Agresti Biofuels plant, at an estimated cost of $200 million, will be entirely independently financed by Oppenheimer and the RBC Capital Markets Corp. and not require state or local subsidies, resulting in an economic benefit to the county.

Another reason officials agreed to move forward with the facility was the assurance that no harmful emissions would be emitted from the plant into the atmosphere. County representative Judge Wayne Rutherford enlisted Oak Ridge National Laboratory to review Agresti's plan and determine whether it was environmentally friendly. ORNL's report stated that no harmful emissions would be released and that Agresti's processes are state-of-the-art and already proven to be in operation in other industries throughout the United States. "It emits nothing into the atmosphere," Rutherford said. "It will be the first MSW-to-ethanol facility that uses the sealed, weak acid hydrolysis process in the country. Their process is so clean, the Dunelands Sierra Club of Indiana has already endorsed it," he added.

Agresti's process consists of dumping waste into a large pool of water in order to sort the trash into three groups: recyclables on top, cellulosic matter in the middle, and metals on the bottom. Only 10 percent of MSW can not be used in some way. Recyclables and metals are transferred to a recycling facility while all of the cellulosic materials are utilized for ethanol production.

Agresti's patented weak acid hydrolysis system was created by one of its collaborators, GeneSyst International Inc. The process utilizes gravitational pull vessels located deep underground to convert waste materials into simple sugars which are then fermented into ethanol. The process uses little external energy. In fact, according to Agresti project manager Zig Resiak, a 20 MMgy facility will actually produce 7 million gallons of excess water annually and will qualify for carbon credits.

Resiak said it was exciting working with Pike County officials and after five months of significant due diligence, "we are firmly committed to building a state-of-the-art facility for their community and making Pike County a better place to live."

Biomass Magazine reported in April that Indiana Ethanol Power (Agresti) had also entered into negotiations with Lake County, Ind., officials to build a 20 MMgy commercial-scale MSW-to-ethanol facility. The article can be viewed at http://www.biomassmagazine.com/article.jsp?article_id=1561&q=indiana%20ethanol%20power. According to an Agresti spokeswoman, Lake County officials voted Aug. 20 to move preliminary conversations forward on a waste-to-ethanol proposal from Genahol Powers-1 LLC. Genahol has proposed to build a facility that will employ a syngas production method that, once fully operational, would be capable of producing 150 MMgy. The company told *Biomass Magazine* that Lake County officials stressed that the vote to move forward in conversations with Powers-1 does not mean that Agresti won't be granted the final contract.